



# ***COMMONWEALTH of VIRGINIA***

## ***DEPARTMENT OF ENVIRONMENTAL QUALITY***

NORTHERN VIRGINIA REGIONAL OFFICE  
13901 Crown Court, Woodbridge, Virginia 22193  
(703) 583-3800 Fax (703) 583-3801  
[www.deq.virginia.gov](http://www.deq.virginia.gov)

W. Tayloe Murphy, Jr.  
Secretary of Natural Resources

Robert G. Burnley  
Director

Jeffery A. Steers  
Regional Director

### **STATE WATER CONTROL BOARD ENFORCEMENT ACTION**

#### **SPECIAL ORDER BY CONSENT**

#### **ISSUED TO**

#### **ARLINGTON COUNTY BOARD**

#### **FOR**

#### **ARLINGTON COUNTY WATER POLLUTION CONTROL PLANT (VPDES PERMIT NO. VA0025143)**

#### **SECTION A: Purpose**

This is a Consent Special Order issued under the authority of Va. Code §§ 62.1-44.15(8a) and 10.1-1185 between the State Water Control Board and the Arlington County Board regarding the Arlington County Water Pollution Control Plant, for the purpose of ensuring compliance with the State Water Control Law and Regulations.

#### **SECTION B: Definitions:**

Unless the context clearly indicates otherwise, the following words and terms have the meaning assigned to them below:

1. "Va. Code" means the Code of Virginia (1950), as amended.
2. "Board" means the State Water Control Board, a permanent citizens' board of the Commonwealth of Virginia as described in Va. Code §§ 62.1-44.7 and 10.1-1184.
3. "Department" or "DEQ" means the Department of Environmental Quality, an agency of the Commonwealth of Virginia as described in Va. Code §§ 10.1-1183 et seq.

4. "Director" means the Director of the Department of Environmental Quality.
5. "Order" means this document, also known as a Consent Special Order.
6. "County" means Arlington County, a political subdivision of the Commonwealth of Virginia.
7. "County Board" means the governing body of the County.
8. "WPCP" means the Arlington County Water Pollution Control Plant located in Arlington County, Virginia.
9. "VRLF" means the Virginia Revolving Loan Fund.
10. "NVRO" means the Northern Virginia Regional Office of DEQ, located in Woodbridge, Virginia.
11. "Permit" means Virginia Pollutant Discharge Elimination System (VPDES) Permit No. VA0025143.

### **SECTION C: Finding of Facts and Conclusions of Law**

1. The County owns and operates the WPCP, which provides advanced treatment to wastewater generated by the residents, businesses and institutions of the County. The wastewater generated discharges to Four Mile Run in the Potomac River Basin. Discharges of wastewater from the WPCP are subject to the Permit that was reissued on September 17, 2003 and expires on September 16, 2008. The WPCP's current treatment processes include preliminary, primary, secondary and tertiary treatment as well as sludge dewatering. The WPCP also has three odor control treatment systems.
2. Of special relevance is WPCP's tertiary treatment system, which has been upgraded to add nitrification and denitrification processes. These upgrades were completed to meet new ammonia limits pursuant to the Board's Potomac Embayment Standards and the nutrient removal goals of the Potomac River Tributary Strategy to help restore the Chesapeake Bay.
3. Bypasses of the WPCP's treatment systems are frequently necessary during wet weather. Bypasses enter Four Mile run from the raw, primary, and secondary treatment processes. The County has identified infiltration and inflow (I/I) as the main cause of its wet weather bypass problem. Prior to the reissuance of the Permit, bypass locations identified as raw effluent, primary effluent, and secondary effluent

were designated as outfall 002 and recognized as bypass points subject to the provisions of the Permit. With the reissuance of the Permit in September 2003, the WPCP is not authorized to discharge from any location except outfall 001, except on those occasions when a bypass is necessary to avoid personal injury or severe damage to the WPCP. From September 2003 through February 2004, a total of seven unpermitted bypass discharges, totaling approximately 75.7 million gallons, and ranging from approximately 0.5 million gallons to 28 million gallons per bypass, occurred at the WPCP. With new ammonia limits and nutrient reduction goals, the County became more susceptible to bypasses because of the need to maintain an increased percentage of nitrifying bacteria in the treatment system in order to meet the permit limits. In the main, the County believed that bypass of the WPCP was preferable to upsetting the WPCP's nitrification/denitrification biomass, which could take several months to regenerate.

4. I/I studies performed by the County in the early 1990's determined that the primary cause of the I/I was caused by the direct connection of housing foundation drains to the WPCP's sanitary sewer collection system. Although the plumbing code has since been changed to prohibit the practice, prior to 1968 the code allowed the connection of foundation drains to the sanitary sewer system. According to the County, the bulk of the sanitary sewer system was constructed prior to 1968. The County estimates that 60% of the houses constructed prior to 1968 have foundation drains connected to the sanitary sewer system.
5. In November 1998, in response to a Permit condition that required the County to conduct a sewer system evaluation and to submit a plan and schedule for implementation of corrective actions to address system defects, the County submitted an I/I analysis report. The report confirmed that I/I was the primary cause of hydraulic overloading at the WPCP. The report also recommended additional testing and surveys to assess means to address reduction and elimination of excessive I/I and incidents of bypasses. The County is currently implementing a program of sanitary sewer rehabilitation as part of its effort to address WPCP bypasses.
6. At the direction of the County Board, the WPCP conducted a wet weather study that was completed in July 1999. As a result of the study, the County completed construction of a 4.9 million-gallon equalization tank and a fourth aeration tank in the fall of 2000 and late 2002 respectively. According to the County, these improvements have the potential of contributing to reducing the frequency and volume of bypasses.
7. DEQ and the County met in July 2003 to discuss wet weather bypasses. The County made a presentation on its ongoing efforts to address bypasses, including the development and revision of a master plan known as the Master Plan 2001 Update,

or MP01. MP01 consists of integrated and comprehensive multifunctional designs under which component facilities help achieve multiple goals such as nutrient removal, bypass

reduction, increased capacity and, by public education, improved reuse, recycling and demand management.

8. As part of the MP01 process, the County included an engineering analysis of alternatives to address bypasses. The County selected a strategy based on collecting and conveying wet weather flows to an expanded WPCP with added peak flow storage. The County believes the expansion is a more cost-effective alternative to removing the foundation drains and installing additional storm sewers. In addition the WPCP expansion will be much less disruptive to County residents than foundation drain removals involving excavation at their homes. The County estimates that removing the foundation drains will cost approximately \$482 million dollars.
9. The MP01 upgrades to the WPCP for the bypass issues are to be constructed under two design packages, DP-1 and DP-2. The primary proposed improvements for DP-1 are to minimize the magnitude and frequency of wet weather bypasses by expanding the WPCP's equalization capacity with the addition of two new equalization tanks that will increase wet weather flow storage by 11.3 million gallons. DP-2 will expand the WPCP's biological treatment capacity from 30 MGD to 40 MGD and provide for future reduced levels of total nitrogen in the WPCP's effluent. The County states that the expansion and upgrades will address bypasses up to peak flows of 120 MGD. In addition, as part of the MP01 DP-2 upgrades for the WPCP expansion, the County plans a wet weather flow treatment design to maximize treatment and further serve to address bypass events.
10. In addition to the MP01 upgrades, the County will also continue its ongoing I/I program including: (1) continuing TV inspection of its sanitary sewer system, (2) increasing the replacement/rehabilitation of the collection system from 1% to 1.5% per year, (3) continuing smoke testing to identify sources of inflow and cross connections to the sanitary sewer system, (4) continuing inspection of sanitary sewer manholes, (5) continuing to seal manholes identified as sources of inflow during manhole inspections, (6) continuing to remove identified inflow sources, (7) continuing TV inspection of stream crossings, (8) continuing to pursue the long-term strategy of requiring homeowners who rebuild houses to disconnect foundation drains from the sanitary sewer system and connect them to either the storm sewer system or implement other viable alternatives, and (9) through the educational component of the MP01 design, educating the public on the effects of foundation drain inflow on the sanitary sewer system and remedies for these effects and encouraging disconnection where practicable.
11. The FY04 County sewer rate was \$2.92 per 1000 gallons of water. The County has implemented a 28% rate increase for FY05, which adjusts the sewer rate to \$3.73 per 1000 gallons of water. In addition, the County has projected future rate increases through FY10 between four and thirteen percent per annum. These rate increases will be re-evaluated each year during the budget process to account for any adjustments. These

estimates will take into account inflation, non-MP01 operating cost increases, ongoing and new capital expenditure for I/I reduction, infrastructure upgrades and rehabilitation and other wastewater treatment programs.

12. Appendix A of this Order requires the County Board to upgrade the WPCP to address the bypasses, perform a pilot project, conduct an updated Sewer System Evaluation Study and continue I/I studies.

#### **SECTION D: Agreement and Order**

Accordingly the Board, by virtue of the authority granted it in Va. Code § 62.1-44.15(8a), orders the County Board, and the County Board agrees to perform the actions described in Appendix A of this Order.

#### **SECTION E: Administrative Provisions**

1. The Board may modify, rewrite, or amend the Order with the consent of the County Board for good cause shown by the County Board or on its own motion after notice and opportunity to be heard.
2. This Order addresses and resolves the issues specifically identified herein in Section C. This Order shall not preclude the Board or the Director from taking any action authorized by law, including but not limited to: (1) taking any action authorized by law regarding any additional, subsequent, or subsequently discovered violations; (2) seeking subsequent remediation of the facility as may be authorized by law; or (3) taking subsequent action to enforce the Order. This Order shall not preclude appropriate enforcement actions by other federal, state, or local regulatory authorities for matters not addressed herein.
3. For purposes of this Order and subsequent actions with respect to this Order, the County Board admits the jurisdictional allegations, and neither admits nor denies the factual findings, and conclusions of law contained herein.
4. The County Board declares it has received fair and due process under the Administrative Process Act, Va. Code § 9-6.14:1 *et seq.*, and the State Water Control Law, and it waives the right to any hearing or other administrative proceeding authorized or required by law or regulation, and to any judicial review of any issue  
  
of fact or law contained herein. Nothing herein shall be construed as a waiver of the right to any administrative proceeding for, or to judicial review of, any action taken by the Board to enforce this Order.
5. Failure by the County Board to comply with any of the terms of this Order shall constitute a violation of an order of the Board. Nothing herein shall waive the initiation of appropriate

enforcement actions or the issuance of additional orders as appropriate by the Board or the Director as a result of such violations. Nothing herein shall affect appropriate enforcement actions by any other federal, state, or local regulatory authority.

6. If any provision of this Order is found to be unenforceable for any reason, the remainder of the Order shall remain in full force and effect.
7. The County Board shall be responsible for its failure to comply with any of the terms and conditions of this Order unless compliance is made impossible by earthquake, flood, other acts of God, war, strike, or such other occurrence. The County shall show that such circumstances were beyond its control and not due to a lack of good faith or diligence on its part. The County shall notify the DEQ Regional Director in writing when circumstances are anticipated to occur, are occurring, or have occurred that may delay compliance or cause noncompliance with any requirement of the Order.

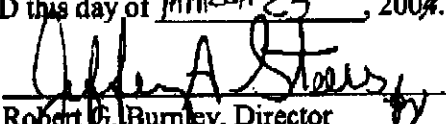
Such notice shall set forth:

- a. the reasons for the delay or noncompliance;
- b. the projected duration of any such delay or noncompliance;
- c. the measures taken and to be taken to prevent or minimize such delay or noncompliance; and
- d. the timetable by which such measures will be implemented and the date full compliance will be achieved.

Failure to so notify the Regional Director by submitting an oral report within three business days and a written report within five business days of learning of any condition above, which the County intends to assert will result in the impossibility of compliance, shall constitute a waiver of any claim to inability to comply with a requirement of this Order.

8. This Order is binding on the parties hereto, their successors in interest, designees and assigns, jointly and severally.
9. This Order shall become effective upon execution by both the Director or his designee and the County Board. Notwithstanding the foregoing, the County Board agrees to be bound by any compliance date which precedes the effective date of this Order.
10. This Order shall continue in effect until (a) the Director or Board terminates the Order in his or its sole discretion upon 30 days written notice to the County Board, or (b) the Regional Director has determined that the requirements of the Order have been met in a timely fashion, whichever occurs first. Termination of this Order, or any obligation imposed in this Order, shall not operate to relieve the County Board from its obligation to comply with any statute, regulation, permit condition, other order, certificate, certification, standard, or requirement otherwise applicable.
11. By its signature below, the County Board voluntarily agrees to the issuance of this Order.

And it is so ORDERED this day of MARCH 23, 2005.

  
Robert G. Burnley, Director  
Department of Environmental Quality

The County Board voluntarily agrees to the issuance of this Order.

By: RC

Date: 3/15/05

Commonwealth of Virginia  
City/County of Arlington

The foregoing document was signed and acknowledged before me this 18 day of

March, 2004, by Ron Carter, who is  
(name)

County Manager of Arlington County, on behalf of the County Board.  
(title)

Austin Williams  
Notary Public

My commission expires: 5/31/08



## **APPENDIX A SCHEDULE OF COMPLIANCE**

1. The County shall develop and submit for DEQ's review and approval, within three months of the effective date of this Order, a plan and schedule for a pilot project to determine the actual cost of disconnection and/or mitigation of inflow sources such as house laterals, sump pumps and housing foundation drains connected to the WPCP's collection system. Upon its review and approval said plan and schedule shall become a part of and enforceable under the terms of this Order. Within 60 days of completion of the pilot project, the findings shall be sent to DEQ. The findings of the pilot project will be used to confirm the County consultant's previously estimated costs for disconnection of house foundation drains. In addition, said findings shall be the basis for a plan and schedule for additional wet weather flow controls including but not limited to I/I reduction or further WPCP improvements should WPCP improvements prove insufficient to reduce the amount and frequency of bypasses at the facility, as is discussed in paragraph 2 below. Such plan and schedule shall be submitted to DEQ for review and approval within 90 days of completion of the pilot project.
2. Should DEQ determine that an approximate 50% reduction in the volume and frequency of WPCP bypasses has not been realized by December 2008, the County shall, within 30 days of notification by DEQ, implement the plan and schedule referenced in paragraph 1 above. DEQ shall use calendar year 2003 as the baseline year for making the determination of reduction required by this paragraph.
3. The County shall develop and conduct an updated Sewer System Evaluation Study (SSES) to identify and prioritize sources of I/I for elimination from the collection system and submit to DEQ no later than July 1, 2006, in a Final Report, conclusions, supporting documentation, and recommendations and a schedule for implementation of specific I/I reduction projects, based on the SSES. Upon DEQ's review and approval of the schedule and recommendations they shall become a part of and enforceable under the terms of the Order.
4. The County shall submit an annual progress report on I/I reduction activities to DEQ on each July 1, through termination of this Order. The Report shall identify actions completed during the previous year.
5. By no later than December 31, 2007, the County shall complete construction of the DP-1 equalization tanks in accordance with approved plans and specifications.
6. By no later than December 31, 2008, the County shall complete construction of the new aeration tanks and secondary clarifiers Nos. 7 and 8, to be installed as part of the DP-2 project, in accordance with approved plans and specifications.

7. By no later than June 30, 2011, the County shall complete construction of secondary clarifier #9, to be installed as part of the DP-2 project in accordance with approved plans and specifications.
8. By no later than February 28, 2012, the County shall complete the retrofit of the WCPS's existing aeration tanks and secondary clarifiers in accordance with approved plans and specifications.
9. Should the County experience problems or disruptions in meeting the construction schedule outlined in Appendix A, paragraphs 5-8 above, the County may submit to DEQ, a revised construction plan and schedule. Said plan and schedule shall be submitted to DEQ within 30 days of the County becoming aware of a condition which may affect its ability to complete the action items referenced in paragraphs 5-8 above in a timely fashion. If DEQ determines that good cause exists, DEQ may approve reasonable plan and schedule revisions, provided that it will not adjust the deadline in paragraph 8 by more than 24 months.
10. During the period of construction, the County may experience additional violations of the same Permit conditions, which necessitated the MP01 upgrades. Accordingly, pending completion of construction, the County will use its best efforts to maximize treatment of wet weather flows at the WPCP and minimize bypasses during the construction period.
11. During the period beginning with the effective date of this Order and lasting through completion of the construction in accordance with the schedule outlined herein, the County shall monitor and limit the discharge from the WPCP in accordance with VPDES Permit No. VA0025143, except that weekly average Permit effluent limitations shall not apply during the construction period. Upon completion of construction and issuance of the CTO, but in no event later than May 1, 2012, weekly average Permit effluent limitations shall again become applicable in accordance with the Permit. The County shall operate the WPCP during the construction period in a workman-like manner to maximize treatment efficiencies.
12. The County shall submit quarterly construction progress reports to DEQ, discussing the projects contemplated in paragraphs 5 through 8 above, along with the WCPS' DMR until all projects are complete.